

## **DETAILED ACTION**

### ***Response to Interview***

In consideration of the request on 7/24/08 for clarification of the final office action rejections mailed 5/30/08, the finality of the action is withdrawn and replaced by this final office action.

### ***Claim Rejections - 35 USC § 112***

The 35 USC 112 second paragraph rejections made 8/9/07 are withdrawn in consideration of the claim amendments filed 12/10/07.

### ***Drawings***

The drawing objection mailed 8/9/07 is withdrawn in consideration of the amendment to claim-7 filed 12/10/07.

### ***Response to Arguments***

Applicant's arguments filed 12/10/07 have been fully considered but they are not persuasive.

As to the rejection of claims 1-3 and 21; Applicant submits:

1. "Weber does in fact have a fibrous web, but the integrity of the web is ***not ensured by means of thermobonding fibers but instead by means of a liquid latex***".

2. "In the applicants' view of the **Weber** description, it is clear that in spite of the fact that he mentions synthetic fibers, he **does not say a word about using the synthetic fibers for bonding the web.**"

The examiner responds that applicant submits that the recitation of **thermobonding fibers** in claim-1 **describes the function of such fibers** (i.e., they are present in the fibrous web in order to maintain the structural integrity of the resulting web product).

Applicant is respectfully reminded that the claims are directed to an apparatus for soil mulching and not to a product-by-process as argued. The recitation of thermobonding fibers as claimed, can be read as argued (that the integrity of the web is ensured by the thermobonding of the synthetic fibers) or read as a characteristic or alternate label for thermoplastic synthetic fibers incorporated in the web, (as thermoplastic synthetic fibers are readable as thermobonding fibers, as thermoplastic fibers are capable of thermobonding).

The examiner has taken the position that the recitation of thermobonding fibers in the claims is another descriptive for thermoplastic synthetic fibers, and that in the sense that they are present in the fibrous web in order to maintain the structural integrity of the resulting web as argued is construed as a process limitation in an product claim, which does not serve to distinguish over the prior art,

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as three-dimensional webs ensured by entangled and partially welded synthetic filaments are known (see for example Morimura GB 2,224,191A), and as Weber '104 teaches incorporation of synthetic fibers to increase tear strength, web integrity via latex saturation or integrity via thermobonding means is merely two alternate means of ensuring web integrity, and as a contribution to the art, thermobonded fibers in a three dimensional web is old in the art. So, while consideration has been afforded the process limitation as argued of thermobonding, the process has been deemed to not distinguish over the alternate prior art means of ensuring web integrity and therefore not been afforded patentable weight.

In consideration of the discussion above, the withdrawal of the rejection advanced against claims 1-3 and 21 as argued by applicant is not persuasive.

As to the rebuttal of rejected claims 4-10, 22, 23 and 29; Applicant further submits:

- 'applicants cannot discern any motivation provided to an ordinary skilled person to combine the teachings of Weber and Anton, as Weber has nothing on his web and he does not need or require the net or grid.'

It has been held that it is not required that the prior art disclose or suggest the properties 'newly-discovered' by an applicant in order for there to be a *prima facie* case of obviousness (see *In re Dillon*). Moreover, as long as some motivation or suggestion to combine the reference is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor (see *In re Beattie*). The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the reference would have suggested to those of ordinary skill in the art (see *In re Keller*).

In this regard, a conclusion of obviousness may be based on common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*). Thus, the addition of a reinforcing grid (as taught by Anton '317) associated with the Weber web as modified, being well-known in the art, would have been an obvious modification, for at least the known advantages of that feature, especially since Weber teaches incorporation of synthetic fibers as a means of improving tear strength, and logically one of ordinary skill in the art would look to reinforcing grids as a means to improving tear strength (among others).

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As to the basis weight of the grid as claimed, the rejection of claim-6 is maintained and repeated below in consideration of the aforementioned case law, in that a person of ordinary skill in the art would be able to arrive at a **grid weight** as claimed, through routine test and evaluation, as a means to enhance the strength of the fibrous web of Weber.

As to claim-7, the applicant has been offered an opportunity to clarify through a drawing of his invention what he intends by "positioning (the grid) exclusively in the area of **the fixing points of the support on the ground**" as claimed, as the use of staples and pegs are known in the art as well as simply placing the mat directly on the surface of the ground. In response, applicant has deleted "of fixing points" in the amendment filed 12/10/07, and resultantly the rejection of claim-7 as submitted in the action mailed 8/9/07 is deemed to still be applicable to the amended claim and is repeated below.

As to claims 9, 22 and 23, as the claims have not been argued individually they stand or fall with claims 1 and 4, and they have been repeated below.

As to claims 8 and 29, the examiner does not agree that the only function of the spattered glue is to retain the seeds in the web of Weber as modified, and that the capability exists for the glue to retain the grid (as modified) as well as the needled teaching of Anton.

In conclusion, it is respectfully submitted that the arguments submitted are not convincing, and that the rejections made in the prior office action are repeated below or have been reworded in consideration of the remarks filed 12/10/07.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1-3 and 21 are rejected under 35 U.S.C. 103(a),**  
as being unpatentable over **Weber** (EP 454104 A1) 1991,  
in view of **Ehret** (US 5,783,504) 1998.

**Regarding claims 1-3 and 21:**

**Weber '104** teaches a biodegradable fibrous web of cellulose treated with latex, and further contemplates a web comprising synthetic fiber or a combination of natural (cellulose) and synthetic fibers.

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It is submitted that Weber contemplates a cellulose web having synthetic fibers distributed therein, and further that the teaching of synthetic fibers encompass thermobonding fibers as claimed. The independent claim is *prima facie* obvious because Weber teaches the use of synthetic fibers in combination with natural fibers, and the recitation of thermobonding fibers as claimed, is considered to be alternate terminology for thermoplastic fibers (synthetic fibers), and while the limitation *thermobonding fibers* has been given consideration as ensuring the integrity of the web as argued by applicant, It has been deemed to not distinguish over the means of the prior art or Weber to ensure the integrity of the fibrous web as discussed above in the response to applicant's arguments. That is, while Weber ensures web integrity through fiber entanglement and the use of latex, the web of the instant invention relies upon entanglement and welding via the thermobonding fibers, each of which renders a web (product) containing natural and synthetic fibers.

In the alternative, while Weber is specific as to cellulose fiber for the natural component of the web, he is not specific as to a particular synthetic fiber for the combination. It is submitted that a person of ordinary skill in the art exercising ordinary creativity, common sense and logic, would look to the art(s) for examples of synthetic fibers to utilize as the synthetic component in Weber.

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As Weber teaches a web suitable as an agricultural mulch and as a row cover, one of ordinary skill in the art would be expected to look to prior art mulches and row covers for examples of synthetic fiber use.

**Ehret '504** teaches a web of polylactic (PLA) fibers for use in protecting plants in agriculture and for mulching (see Abstract), and PLA is a well-known biodegradable thermoplastic (readable as thermobonding, as claimed) material (synthetic fiber).

It is submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have evaluated PLA as a synthetic fiber component in the contemplated natural fiber / synthetic fiber web of Weber, as where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). *Ex Parte Smith*, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (citing *KSR v. Teleflex*, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)).

Accordingly, applicant claims a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results;

And absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing KSR, 127 S.Ct. at 1740, 82 USPQ2d at 1396.

Accordingly, since applicant has submitted no persuasive evidence that the combination of the above elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a), because it is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement.

**Claims 4-10, 22, 23 and 29** are rejected under 35 U.S.C. 103(a), as being unpatentable over **Weber '104** and **Ehret '504**, as applied to claim-1 above, and further in view of **Anton** (SI 9600317 A2) 1998.

Regarding **claims 4 and 5**:

The discussion above regarding claim-1 is relied upon.

**Weber** is silent as to a grid associated with at least part of the support as claimed; however, Weber as discussed above teaches incorporation of synthetic fibers to improve the tear strength of the web, and as the use of reinforcing grids with fibrous webs (mulch mats and such) is well-known in the art(s), it would have been obvious to incorporate a reinforcing grid with the web of Weber, as a means to improve the tear strength as recognized by Weber.

**Anton '317** teaches (see Abstract) an analogous soil mulch or fibrous web having a textile (threads as claimed) or net cover (**grid**) that can be placed on one or two sides of the support (see Abstract and figure-1), and as both Weber and Anton teach supports or webs of organic fiber for soil mulching; it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have modified Weber to include a cover (**grid**) as taught by Anton for the known advantages as taught by Anton (and Weber), specifically, to strengthen the web or support.

Further, Anton (in the absence of a translation) teaches a textile or net made of jute as the cover, and as jute is utilized to make twine and as jute twine is an equivalent to modified viscose as claimed (viscose read to encompass treated cellulose), then it would have been obvious to one of ordinary skill in the art at the time the invention was made,

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to have modified Weber to include a grid made of viscose threads, as further such modification is merely an alternate functionally equivalent organic material performing the same intended function of a biodegradable and strengthening layer material.

**Regarding claim-6:**

The discussion above regarding claim-4 is relied upon.

Weber as modified, is silent as to the weight of the grid as claimed (in the absence of a translation of Anton).

In view of the guidance provided by the Supreme Court in *KSR*; the claim would have been obvious (that is, the weight range of the grid as claimed) because, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp to arrive at a grid weight for strengthening purposes, that would result in the weight range as claimed, and if this leads to the anticipated success, it is likely the product not of innovation, but of ordinary skill and common sense.

**Regarding claims 7, 9, 22 and 23:**

The discussion above regarding claim-4 is relied upon.

The grid (cover) of Weber as modified by Anton and as depicted in figure-1 of Anton, is readable as, 'positioned" and "associated" as claimed.

**Regarding claims 8 and 29:**

The discussion above regarding claim-4 is relied upon.

Weber as modified teaches a needled grid or cover which is further spattered with latex, celluloid glue or another suitable binder, which is readable on the grid being glued directly on the surface of the fibrous support, and further, the glues recited in the claim are readable on other suitable binders as taught by Anton in the abstract, and the examiner takes official notice that the biodegradable glues as recited in claim-8 are well known in the art of mulching/mats for the well known advantages of that feature.

Further, In view of the guidance provided by the Supreme Court in *KSR*; the claim would have been obvious (that is, the weight of the glue as claimed) because, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp to arrive at a glue weight (amount) for adhesive and strengthening purposes, that would result in the weight as claimed, and if this leads to the anticipated success, it is likely the product not of innovation, but of ordinary skill and common sense.

**Regarding claim-10:**

The discussion above regarding claim-1 is relied upon.

Weber while teaching a natural fiber web (support) saturated with a latex solution is silent as to the use of a hydrophobic resin in the support, as claimed.

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Applicant discloses the use of epichlorhydrin resin with a combination of deciduous and coniferous fibers (WO 01/25536) in a mulching product as admitted prior art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a hydrophobic resin as claimed and as taught by applicant, to the support of Weber as claimed, for the known advantages of that feature, specifically, to extend the useful life of the biodegradable web or support. Likewise, it would have been obvious to incorporate an alternative equivalent hydrophobic resin such as urea-formaldehyde as claimed, as in the absence of any stated problems solved by or any advantage obtained by having an epichlorhydrin resin rather than urea-formaldehyde resin, further such modification is merely an alternate equivalent hydrophobic resin performing the same intended function of extending the biodegradability of the fibrous mass.

Furthermore, one skilled in the art could have combined the elements claimed by known methods with no change in their respective functions (stable binder), and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Morimura '191 can be relied upon for the teaching of entangled and thermobonded (partially welded) synthetic fibers in a fibrous web, and Asai '844 for the combination of a rock wool fiber and thermosetting resin and the heating of the combination to solidify the fibers together.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis T. Palo whose telephone number is 571-272-6907. The examiner can normally be reached on M-Tu.,Th.-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Francis T. Palo/  
Primary Examiner  
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